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## Agricultural spotlight: acreage shifts follow price signals

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# Ag Decision Maker

## A Business Newsletter for Agriculture

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### Agricultural spotlight: acreage shifts follow price signals\*

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USDA recently released its first planting estimates for the 2006 crops.

Comparing these estimates to the planting intentions gathered in March of this year, corn acreage increased while soybean acreage declined. For corn, Iowa plantings rose by 200,000 acres and national acreage increased by 1.35 million acres. Soybean plantings fell by 300,000 acres in Iowa and by 1.97 million acres nationally.

The difference between planting intentions and planted acreage was created by a combination of weather events and crop price movements. The March planting intentions showed that agricultural producers were concerned with the projections of higher input costs for fuels and fertilizers. That concern was backed up by their intention to plant more soybeans and less corn, a

movement from a higher-input-intensive crop to a lower-cost crop. The June planting report indicates farmers backtracked somewhat on this move. Weather conditions through April and May allowed planting to proceed at a brisk pace. This gave producers opportunities to put more corn in the ground than they expected. Also, as shown in Figure 1, crop price movements since the end of March have favored corn over soybeans. For the harvest futures contracts for 2006, corn prices have increased by 5 percent while soybean prices have increased by 2 percent. These relatively higher corn prices throughout the planting season also provided incentives to producers to shift acreage back to corn.

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#### Handbook updates

For those of you subscribing to the handbook, the following updates are included.

**2005 Iowa Cost and Returns – C1-10** (14 pages)

**Historic Corn Yields – A1-12** (10 pages)

**Historic Soybean Yields – A1-13** (10 pages)

Please add these files to your handbook and remove the out-of-date material.

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University Extension

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## Projections for 2006 and 2007

Table 1 contains two sets of net return projections for corn and soybeans. The only differences between the two projections are projected harvest time prices. The trend yields are estimated from national yield data for 1980-2005. Harvest price projections are taken from the December 2006 corn and the November 2006 soybean futures contracts. Variable costs of production estimates are obtained from USDA's Economic Research Service. Net return per acre is computed as the trend yield times the harvest price less the variable costs of production. As the table shows, based on March 30 prices, corn held a slight advantage over soybeans in net returns. Price movements since then have added to corn's advantage, so that now corn net returns are projected to be \$30 per acre over soybean net returns. Producers saw strong economic incentives to back away from their March planting intentions and return acreage back to corn.

Looking forward to the 2007 crop year, the current price signals are pointing even more strongly to corn. Figure 2 shows the relative changes in corn and soybean harvest futures prices for the 2007 crop year. Since March, the December 2007 corn futures price has risen 31¢ a bushel, an 11 percent increase. The November 2007 soybean futures price has risen 35¢ a bushel, a 5.5 percent increase. These moves put December 2007 corn at over \$3.00 a bushel and November 2007 soybeans at \$6.67 a bushel. To put these prices in perspective, let's look at the 1990-2005 average futures prices for the December corn and November soybean contracts from mid-July, one and a half years before harvest. Corn prices averaged \$2.52/bushel while soybeans averaged \$5.81/bushel. So both the corn and soybean prices going into 2007 are well above average levels. In fact, over those 16 years, none of the corn prices exceeded \$3.00 a bushel, and only in one year did the soybean price register above \$6.67 a bushel (\$7.02 in July 1996 for the

November 1997 soybean contract). But the corn price is 22 percent above average while the soybean price is 15 percent above average. Both prices indicate demand for more acreage of both crops, but the corn signal is stronger.

Table 2 shows projections for corn and soybean net returns based on trend yields, current futures prices for 2007, and increased production costs.

**Table 1. 2006 projections for yields, prices, and costs of production**

	Corn	Soybeans
	as of 3/30/06	
Trend Yield (bu/acre)	147.80	41.70
Harvest Price (\$/bushel)	2.60	6.16
Variable Costs of Production (\$/acre)	207.20	96.63
Net Return (\$/acre)	177.08	160.03
	as of 7/10/06	
Trend Yield (bu/acre)	147.80	41.70
Harvest Price (\$/bushel)	2.73	6.30
Variable Costs of Production (\$/acre)	207.20	96.63
Net Return (\$/acre)	195.56	165.98

**Table 2. 2007 projections for yields, prices, and costs of production**

	Corn	Soybeans
Trend Yield (bu/acre)	149.70	42.20
Harvest Price (\$/bushel)	3.09	6.67
Variable Costs of Production (\$/acre)	223.70	104.25
Net Return (\$/acre)	238.12	177.22

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For the variable costs of production, the 2007 value is the 2006 value plus an upward adjustment reflecting the same percentage growth in costs as was experienced between 2005 and 2006. Corn's projected net return gap over soybeans increases to \$60 per acre. These projections indicate that we should expect to see increased corn acreage in 2007.

## Drivers of Corn Demand

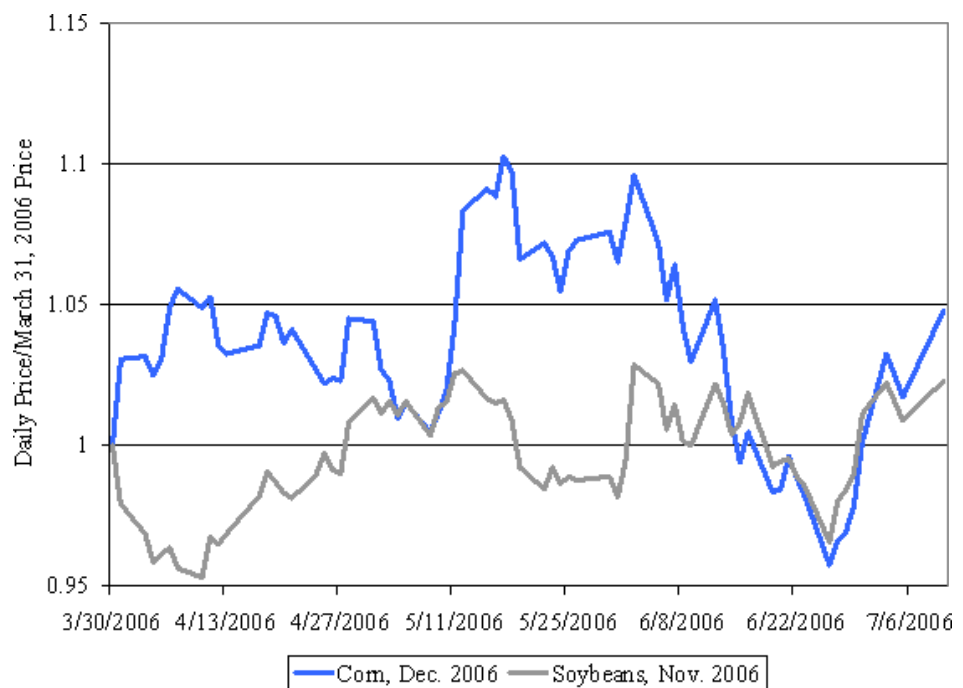
The strength of the corn and soybean prices is somewhat surprising given the last two production years. For both corn and soybeans, the 2004 crop year is the all-time record for production and the 2005 crop year is the second highest. So recent production has not been lacking. Corn stocks are up slightly from last year and soybean stocks are at record levels, up 42 percent from last year. So crop stocks are not low. Expected strong demand for the crops seems to be the driving factor behind the strength in corn and soybean prices.

Part of that demand is coming from the livestock sector. In the past two years, cattle and hog producers have made a lot of money, an economic signal to expand their herds. Recent cattle inventory figures show that we may have entered an upturn in the U.S. cattle cycle, as cattle inventories are running higher than in the previous two years. Quarterly inventories of hogs are holding above 60 million head, and breeding hog inventories are up from last year. The increase in livestock inventories translates into increased demand for feedstocks--corn and soybean meal.

Another segment of demand is the ethanol boom. Ethanol production has more than doubled since 2001. In 2005, over 3.9 billion gallons of ethanol was produced in the United States. The vast majority of this ethanol was derived from corn. In 2001, 681 million bushels of corn were dedicated to ethanol production. By 2005, that amount had grown to 1.43 billion bushels. The ethanol industry is poised to become the second-largest market segment for corn, trailing only livestock feed and surpassing exports.

The Energy Policy Act of 2005 established a renewable fuels standard that grows from 4 billion gallons in 2006 to 7.5 billion gallons in 2012. Ethanol is positioned as the fuel to meet this standard. Current production already exceeds the 2006 target. There are over 100 ethanol plants currently in operation. Several of these plants are expanding and over 30 more plants are in the planning and/or construction stages. Based on these plants alone, the ethanol industry could grow to 7 billion gallons within the next year and a half.

**Figure 1. 2006 crop price movements since March 30, 2006**

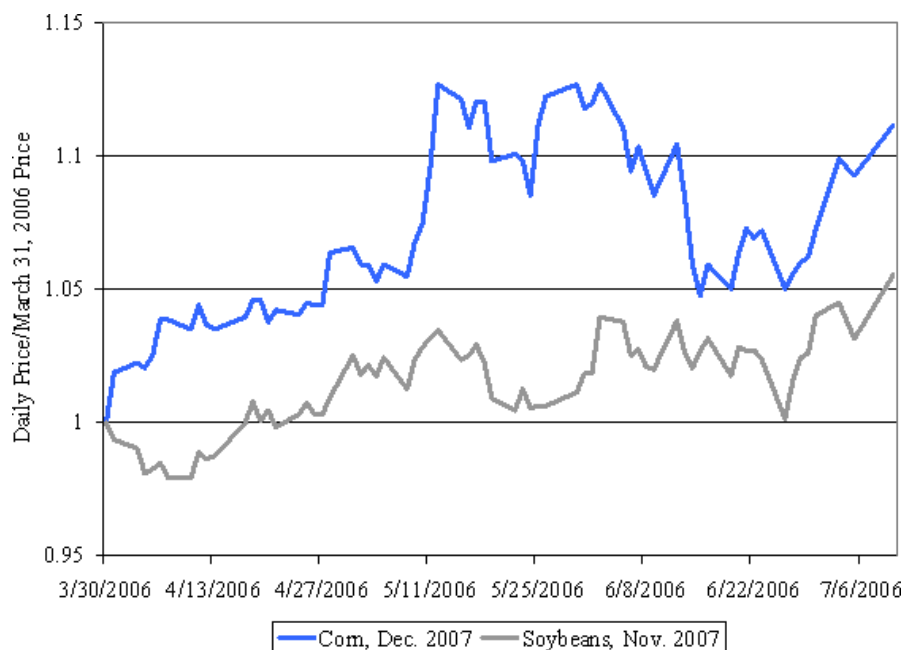


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Increased feed demand and increased ethanol demand translate into higher expected futures prices for both corn and soybeans. The market wants more of both commodities, but there is a limited supply of acreage. Current market signals indicate that the market wants corn acres more than soybean acres. If this trend continues, expect Iowa corn acreage to grow, Iowa soybean acreage to decline, and the proportion of Iowa acreage enrolled in the Conservation Reserve Program to shrink.

**Figure 2. 2007 Crop price movements since March 30, 2006**



## Farm financial planning program

*by Ann M. Holste, extension program specialist, [aholste@iastate.edu](mailto:aholste@iastate.edu), (515) 294-4197*

**F**arm Financial Planning is Iowa State University Extension's farm financial analysis program. It consists of one-on-one financial counseling, a computerized analysis of the farm business, and referral to other extension programs or outside services that may be useful.

### Who is it for?

Farm Financial Planning is for anyone who wants to understand a complete picture of their farm financial situation. It helps take the guesswork out of whether or not a change would increase profitability and improve cash flow. A FINPACK analysis may provide a more in-depth evaluation of the farm business, which many lenders are requiring before they will extend further credit.

### What does it do?

Farm Financial Planning helps you evaluate your farm business and determine whether or not a change is desirable. It provides an in-depth plan for the farm business so the operator and the lender can make decisions for the future. Farm Financial Planning helps answer three basic questions of sound business management.

- Where am I today?
- Where do I want to be in the future?
- How do I get there?

The computer analysis looks at profitability, liquidity, solvency, and risk-bearing ability. This information is provided for three or more alternative plans at a time. Examples of alternative plans could be the addition, expansion, or phasing out of a

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